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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
In Reissue Application of: David E. BOCCHI et al.

(for Reissue of U.S.
Patent No. 4,998,531)

Group Art Unit:

Filed: March 12, 1993

Examiner:

For: IMPLANTABLE N-PHASIC DEFIBRILLATOR OUTPUT BRIDGE CIRCUIT

**REISSUE DECLARATION OF DAVID E. BOCCHI,
JEFFREY T. LAACKMAN AND STANLEY M. BACH, JR.**

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

We, David E. Bocchi, Jeffrey T. Laackman and Stanley M. Bach, Jr., declare that we are citizens of the United States of America; that we verily believe ourselves to be the original and first inventors of the invention described and claimed in the U.S. application Serial No. 07/501,527, filed March 28, 1990, and entitled IMPLANTABLE N-PHASIC DEFIBRILLATOR OUTPUT BRIDGE CIRCUIT, which issued as U.S. Letters Patent No. 4,998,531 (the "'531 patent") on March 12, 1991, and is assigned to Cardiac Pacemakers, Inc., 4100 Hamline Avenue North, St. Paul, Minnesota 55112, and for which we pray that we may be allowed to surrender the '531 patent and that said Letters Patent be reissued to us; and that we do not know and do not believe that said invention was ever known or used in the United States of America before our invention thereof.

We have reviewed and understand the contents of the above-identified application, including the specification and all claims of the reissue application.

We verily believe that said Letters Patent is inoperative by reason that we claimed less than we had the right to claim in the patent. We respectfully submit that a particular feature of the present invention, which is well disclosed in said Letters Patent, was through inadvertence, accident or mistake not correctly claimed. For the reasons stated below, we believe the original patent to be wholly or partially "inoperative or invalid."

Specifically, the insufficiency in the apparatus claims 1, 3 and 5 of the '531 patent lies in the erroneous recitation of incorrect connections of the third and fourth switching means to other claimed structures, so that the apparatus as claimed will not operate as described in the specification. In particular, these claims erroneously recite the third and fourth switching means as connected to the first and second leads, respectively. This claimed structure will not operate in the manner as described in the specification (see col. 6 lines 25-30) or claimed in the method claim 4. This can be seen by reference to Fig. 1 of the '531 patent for purposes of illustration. When transistor Q1 is defined as the first switching means, then the second switching means reads on Q12, the first lead terminal reads on the Patch + lead, and the second lead terminal reads on the Patch - lead. According to claim 4 and the disclosure, the third switching element is connected to the second lead and thus reads on Q2, while the fourth switching element is connected to the first lead and thus reads on Q13. In operation, this allows Q1 to discharge through Q13 to ground via the electrodes, and Q12 to discharge through Q2 to ground via the

electrodes. But, claims 1, 3 and 5 erroneously define the third switching means as connected to the first lead, thus reading on Q2, and the fourth switching means as connected to the second lead, thus reading on Q13. Thus, it can be seen that not only is the erroneous claim recitation contrary to the disclosure, but it is also clearly a mistake, in that the claimed structure would be non-operational, Q2 shorting Q1 and Q13 shorting Q12 so that no current is discharged across the electrodes.

Instead, claims 1, 3 and 5 should have recited the fourth and third switching means as being connected to the first and second leads, respectively, for selectively connecting said first and second leads, respectively, to the ground return. Claims 1, 3 and 5 of the reissue application correctly recite this structure, thus overcoming the defect in the original '531 patent.

We are not aware of specifically how this error arose, but it appears to have arisen through the ^{unintentional} inadvertent transposition of "third" and "fourth" in the first draft of the claims. This error occurred prior to our receiving, in May 1989, a copy of a memorandum from Tim Casady forwarding an attached draft patent application concerning the above-identified invention. A true copy of this memorandum and the claims of the attached draft application are enclosed as Exhibit A. While we each reviewed the attached draft application, none of us noticed in our review that claims 1, 3 and 5 mistakenly described the third and fourth switching means as connected to the first and second leads, respectively. Thus, we inadvertently did not detect this mistake during our review of the

draft application in May 1989. A comparison of this draft application with the issued Patent No. 4,998,531 shows that the claims of the draft application are identical to the claims granted in the '531 patent.

None of us became aware of this mistake until 1993. To the best of David Bocchi's knowledge (Stanley Bach and Jeffrey Laackman being without independent knowledge thereof), David Bocchi first became aware of the mistake in January 1993, after Kevin Buford, a patent attorney representing Cardiac Pacemakers, Inc., telephoned David Bocchi asking him to review claims 1, 3 and 5 in connection with an Interference involving the '531 patent. On reviewing the claims, David Bocchi first determined that claims 1, 3 and 5 contained the error described above. To the best of Stanley Bach's knowledge (David Bocchi and Jeffrey Laackman being without independent knowledge thereof), Stanley Bach first became aware of the mistake in April 1993 when informed of it in connection with this reissue application. Similarly, to the best of Jeffrey Laackman's knowledge (David Bocchi and Stanley Bach being without independent knowledge thereof), Jeffrey Laackman first became aware of the mistake in April 1993 when informed of it in connection with this reissue application.

We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Section 1.56(a) of Title 37 of the Code of Federal Regulations.

We further declare that all statements made herein of our own knowledge are true and that all statements made on information

and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application and any patent issuing thereon.

3 We, David E. Bocchi, Jeffrey T. Laackman and Stanley M. Bach, Jr., inventors of the invention described and claimed in this reissue application, further hereby appoint Martin Fleit, Reg. No. 16,900; Ronald D. Cohn, Reg. No. 25,203; and Kevin A. Buford, Reg. No. 34,786; as attorneys in this reissue application, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Full name of Inventor:

David E. Bocchi¹⁻⁴⁰ ✓
440 Jay Way MN
Vadnais Heights, Minnesota 55127

David E Bocchi
Inventor

4/22/93
Date

Full name of Inventor:

2-070
Jeffrey T. Laackman
Route 1, Box 320A MN
Isanti, Minnesota 55040

Jeffrey T. Laackman
Inventor
4/22/93
Date

Full name of Inventor:

3-00
Stanley M. Bach, Jr. ✓
4000 Virginia Avenue MN
Shoreview, Minnesota 55126

Stanley M. Bach, Jr.
Inventor

5/3/93
Date

MAIL ROOM
30 23 1993
U.S. PATENT & TRADEMARK OFFICE
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of: David E. BOCCHI et al.

U.S. Patent No. 4,988,531

Issued: March 12, 1991

Reissue Application Filed: March 12, 1993

Serial No: 08/051,899

For: IMPLANTABLE N-PHASIC DEFIBRILLATOR OUTPUT BRIDGE CIRCUIT

ASSENT OF ASSIGNEE

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

Cardiac Pacemakers, Inc., of 4100 Hamline Avenue North, St. Paul, Minnesota 55112, the Assignee of the entire right, title and interest of United States Letters Patent No. 4,988,531, by virtue of an Assignment to Cardiac Pacemakers, Inc. dated March 14, 1990, and recorded in the assignment records of the U.S. Patent and Trademark Office on March 28, 1990, at Reel 5273, Frame 531, hereby assents to the filing of the captioned reissue application based on said patent.

CARDIAC PACEMAKERS, INC.

Date:

July 12, 1993

[Signature]

DEH

The Commissioner is hereby authorized to debit Deposit Account No. 11-0275 in the amount of \$1,274 for the filing fee and any fees set forth in §§1.16 and 1.17 as needed in order to effect proper filing of the application. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

 34,786

Ronald D. Cohn, Reg. No. 25,203

Atty. Dkt. No.: 47076-382
Date: August 23, 1993
KECK, MAHIN & CATE
P.O. Box 06110
Chicago, IL 60606-0110
Washington, D.C. Office
Telephone: (202) 789-3400
RDC/KAB/rh